

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Jean M. Beaupre, et al. **Examiner:** Unassigned
Serial No: 09/757,013 **Art Unit:** 3739
Filed: January 8, 2001 **Docket:** 13904(END-701)
For: LAMINATED ULTRASONIC **Dated:** March 13, 2002
WAVEGUIDES FABRICATED
FROM SHEET STOCK

Assistant Commissioner for Patents
United States Patent and Trademark Office
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 C.F.R. §§ 1.56, 1.97 and 1.98, applicant is submitting herewith an INFORMATION DISCLOSURE STATEMENT (PTO-1449) and a copy of each reference cited herein.

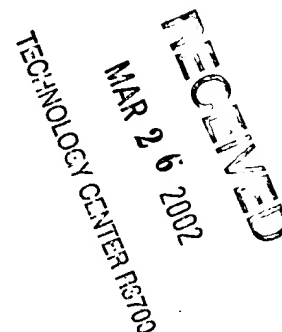
UK Patents 145,691 and 868,784 relate to the emission and reception of submarine sonar waves with Langevin stack transducers. These transducers are fabricated of laminations of piezoelectric materials which extend perpendicular to the transmission axis of the device for the purpose of producing and detecting ultrasonic energy. In contrast thereto, the present invention relates to ultrasonic waveguide or blades composed of laminations of metal parts which serve as waveguides and extend parallel to the transmission axis of the device for the purpose of transmitting, amplifying, and delivering ultrasonic energy.

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on March 13, 2002.

Dated: March 13, 2002


Mishelle Mustafa



U.S. Patent 2,930,912 for a Composite Electromechanical Transducer relates to piezoelectric Langevin stack transducers as addressed in UK Patents 145,691 and 868,784 with a non-metallic electrical insulator (not for the purposes of generation or transmission of ultrasonic energy) and magnetostrictive transducers. The magnetostrictive transducer is composed of a core with a plurality of laminated sections for the purpose of generating ultrasonic energy. This reference does not transmit, manipulate, amplify, or deliver ultrasonic vibrations similar to the present invention.

U.S. Patent 3,053,124 for Ultrasonic Welding discloses tweezers composed of flat steel which are attached to an ultrasonic waveguide. However, the tweezers are laminated only in a limited portion of the device (less than one half wavelength) and branch to form two ultrasonically active members. In contrast thereto, the present invention relates to an instrument having bonded laminates over a substantial portion of its length (greater than one half wavelength) to form a single waveguide.

U.S. Patent 4,911,161 for Capsulectomy Cutting Apparatus relates to a connection method comprising a tongue in groove design. This could be interpreted as a lamination, but is not a solid bond and is over a very limited portion (limited to near an antinode of the device).

U.S. Patent 4,992,048 for a Tool for Cleaning Tooth Root Canals discloses a tool comprised of a plurality of components in one limited portion of the device, but the components are not really laminations.

U.S. Patent 5,057,182 for an Ultrasonic Comb Horn relates to ultrasonic welding horn technology. These ultrasonic horns are made of thick sections (individual sections having a thickness from $\frac{1}{2}$ the width to greater than the width of the individual segments) which are spaced apart from one another except at noncritical points. This is to allow each segment to work independent of every other segment. In contrast thereto, the present invention relates to a device composed of thin plates bonded and laminated to one another at any point to produce a solid structure bonded at any point to produce a single active segment.

European patent applications EP 0 968 684 A1 for a Method For Balancing Asymmetric Ultrasonic Surgical Blades and EP 0 970 660 A1 for a Balanced Ultrasonic Blade Including a Plurality of Asymmetrics relate to modified asymmetric designs to improve

performance, and could be used in conjunction with the laminated ultrasonic waveguide or blade development of the present invention when the layers are not axially symmetric.

Inasmuch as this Information Disclosure Statement is being submitted in accordance with the schedule set out in 37 C.F.R. § 1.97(b), no petition, certification or fee is required.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "William C. Roch". The signature is fluid and cursive, with the first name "William" being more prominent and the last name "Roch" following in a similar style.

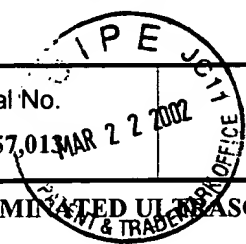
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WCR/sf
Enclosures PTO Form 1449 w/ 9 references

3739

TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT (Under 37 CFR 1.97(b) or 1.97(c))			Docket No. 13904 (END-701)
In Re Application Of: Jean M. Beaupre, et al.			
Serial No. 09/757,013	Filing Date January 8, 2001	Examiner Unassigned	Group Art Unit 3739
Title: LAMINATED ULTRASONIC WAVEGUIDES FABRICATED FROM SHEET STOCK			
Address to: Assistant Commissioner for Patents Washington, D.C. 20231			
37 CFR 1.97(b)			
1. <input checked="" type="checkbox"/> The Information Disclosure Statement submitted herewith is being filed within three months of the filing of a national application; within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; or before the mailing date of a first Office Action on the merits, whichever event occurs last.			
37 CFR 1.97(c)			
2. <input type="checkbox"/> The Information Disclosure Statement submitted herewith is being filed after three months of the filing of a national application, or the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; or after the mailing date of a first Office Action on the merits, whichever occurred last but before the mailing date of either:			
1. a Final Action under 37 CFR 1.113, or			
2. a Notice of Allowance under 37 CFR 1.311,			
whichever occurs first.			
Also submitted herewith is:			
<input type="checkbox"/> a certification as specified in 37 CFR 1.97(e);			
OR			
<input type="checkbox"/> the fee set forth in 37 CFR 1.17(p) for submission of an Information Disclosure Statement under 37 CFR 1.97(c).			



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TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT
(Under 37 CFR 1.97(b) or 1.97(c))

Docket No.
13904 (END-701)

In Re Application Of: Jean M. Beaupre, et al.

Serial No.
09/757,013

Filing Date
January 8, 2001

Examiner
Unassigned

Group Art Unit
3739

Title: **LAMINATED ULTRASONIC WAVEGUIDES FABRICATED FROM SHEET STOCK**



Payment of Fee

(Only complete if Applicant elects to pay the fee set forth in 37 CFR 1.17(p))

- ☐ A check in the amount of _____ is attached.
- ☒ The Assistant Commissioner is hereby authorized to charge and credit Deposit Account No. **1013/SSMP** as described below. A duplicate copy of this sheet is enclosed.
- ☐ Charge the amount of _____
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Mishelle Mustafa

Typed or Printed Name of Person Mailing Correspondence

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Signature

Dated: March 13, 2002

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